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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/782,882 | 02/13/2001 | Samuel P. Weaver | 19930-001200US | 3336 |

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EXAMINER

RAHLL, JERRY T

ART UNIT PAPER NUMBER

2874

DATE MAILED: 04/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/782,882

Applicant(s)

WEAVER ET AL.

Examiner

Jerry T Rahll

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-8,11-16,19-24,27-29,32,35,38-41 and 44-48 is/are rejected.
- 7) ☒ Claim(s) 4,5,9,10,17,18,25,26,30,31,33,34,36,37,42,43,49 and 50 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 February 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,3,4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

1. The drawings are objected to because Figures 4A-6D do not have uniform and clear lines and labeling. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: Figure 4B is not included in described in the "Brief Description of the Drawings". Further, The abstract and pages 2-3 of the specification contain passages that have been crossed out and re-written in hand. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-3, 6-8, 11-16, 19-24, 27-29, 32, 35, 38-41 and 44-48 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,501,877 to Weverka et al.
5. The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37

CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

6. Weverka et al. describes a wavelength router for receiving light having a plurality of spectral bands at an input port and directing subsets of the spectral bands to respective ones of a plurality of output ports comprising a routing mechanism having a substantially planar array of dynamically configurable routing elements, each of which is structured to direct a given spectral band to different output ports depending on a state of the routing element and a free-space optical train between the input port and output ports providing optical paths for routing the spectral bands having a dispersive element disposed to intercept light traveling from the input port and diffract it into a plurality of angularly separated beams corresponding to the plurality of spectral bands where the optical train is configured so that light encounters the dispersive element before reaching any of the output ports and a first focusing element disposed with respect to the dispersive element and with respect to the substantially planar array of dynamically configurable routing elements such that dispersion in the focal distance of the first focusing element for different angularly separated beams compensates for field curvature aberration caused by the first focusing element (see Figures 1-3 and Columns 5-7).
7. Weverka et al. further describes the input port as located at the end of an optical fiber.
8. Weverka et al. further describes the output ports are located at the ends of output fibers.
9. Weverka et al. further describes the routing mechanism including a plurality of reflecting elements, each associated with a respective one of the spectral bands.

10. Weverka et al. further describes the dispersive element as a reflective diffraction grating and the first focusing element further disposed with respect to the reflective diffraction grating to collimate light from the input port before encountering the grating.
11. Weverka et al. further describes the input port substantially coplanar with the array of dynamically configurable routing elements.
12. Weverka et al. further describes the first focusing element as a lens.
13. Weverka et al. further describes the first focusing element as a curved reflector disposed to intercept light from the input port.
14. Weverka et al. further describes the dispersive element as a transmissive diffraction grating and the free-space optical train further comprising a second focusing element disposed with respect to the transmissive diffraction grating to collimate light from the input port before encountering the grating.
15. Weverka et al. further describes the first focusing element as a lens between the transmissive grating and the routing elements and the second focusing element as a lens between the input port and the grating.

Allowable Subject Matter

16. Claims 4-5, 9-10, 17-18, 25-26, 30-31, 33-34, 36-37, 42-43 and 49-50 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
17. Claims 4, 9, 25, 30, 36 and 42 describe a positive field curvature aberration and the input port positioned proximate the optical element corresponding to the shortest-wavelength spectral

band, with optical elements corresponding to progressively longer-wavelength spectral bands positioned progressively farther from the input port.

18. Claims 5, 10, 26, 31, 37 and 43 describe a negative field curvature aberration and the input port positioned proximate the optical element corresponding to the longest-wavelength spectral band, with optical elements corresponding to progressively shorter-wavelength spectral bands positioned progressively farther from the input port.

19. Claims 17, 33 and 49 describe the dispersive element angularly positioned with respect to the first focusing element to minimize the field curvature aberration.

20. Claims 18, 34 and 50 describe the first focusing element configured to have a specific field curvature aberration based on an angular position of the dispersive element with respect to the first focusing element.

Conclusion

21. Prior art documents submitted by applicant in the Information Disclosure Statements filed 22 May 2001, 09 July 2001 and 26 March 2002 have all been considered and made of record (note the attached copy of form PTO-1449).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry T Rahll whose telephone number is (703) 306-0031. The examiner can normally be reached on M-F (8:00-5:30), with alternate Fridays off.

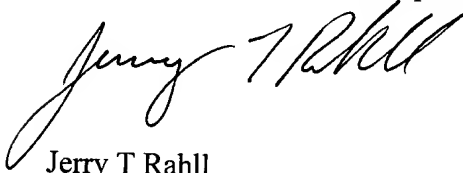
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (703) 308-4819. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Jerry T Rahl
April 16, 2003


AKM ENAYET ULLAH
PRIMARY EXAMINER